

Recent Progress in Asteroseismology

Jørgen Christensen-Dalsgaard

*Teoretisk Astrofysik Center, Danmarks Grundforskningsfond, and
Institut for Fysik og Astronomi, Aarhus Universitet, Denmark*

Asteroseismology, the study of stellar interiors on the basis of observations of multi-mode stellar oscillations, extends over a large part of the Hertzsprung-Russell diagram. Extensive observational results have been obtained for δ Scuti stars, although the lack of reliable mode identifications has so far precluded the use of the data for detailed investigations. The recently discovered EC14026 stars (or pulsating subdwarf B stars) promise information about the properties of stars on the horizontal branch. Solar-like oscillations, i.e., oscillations excited stochastically by convection, have been tentatively identified in a few cases, including through observations from the WIRE satellite. Promising cases are giant stars, where the expected amplitudes may make ground-based observations of the oscillations relatively straightforward. Major advances can be expected from the upcoming asteroseismic space projects under development or study; the most ambitious of the latter is the Eddington mission, recently proposed to ESA and up for selection later this year.